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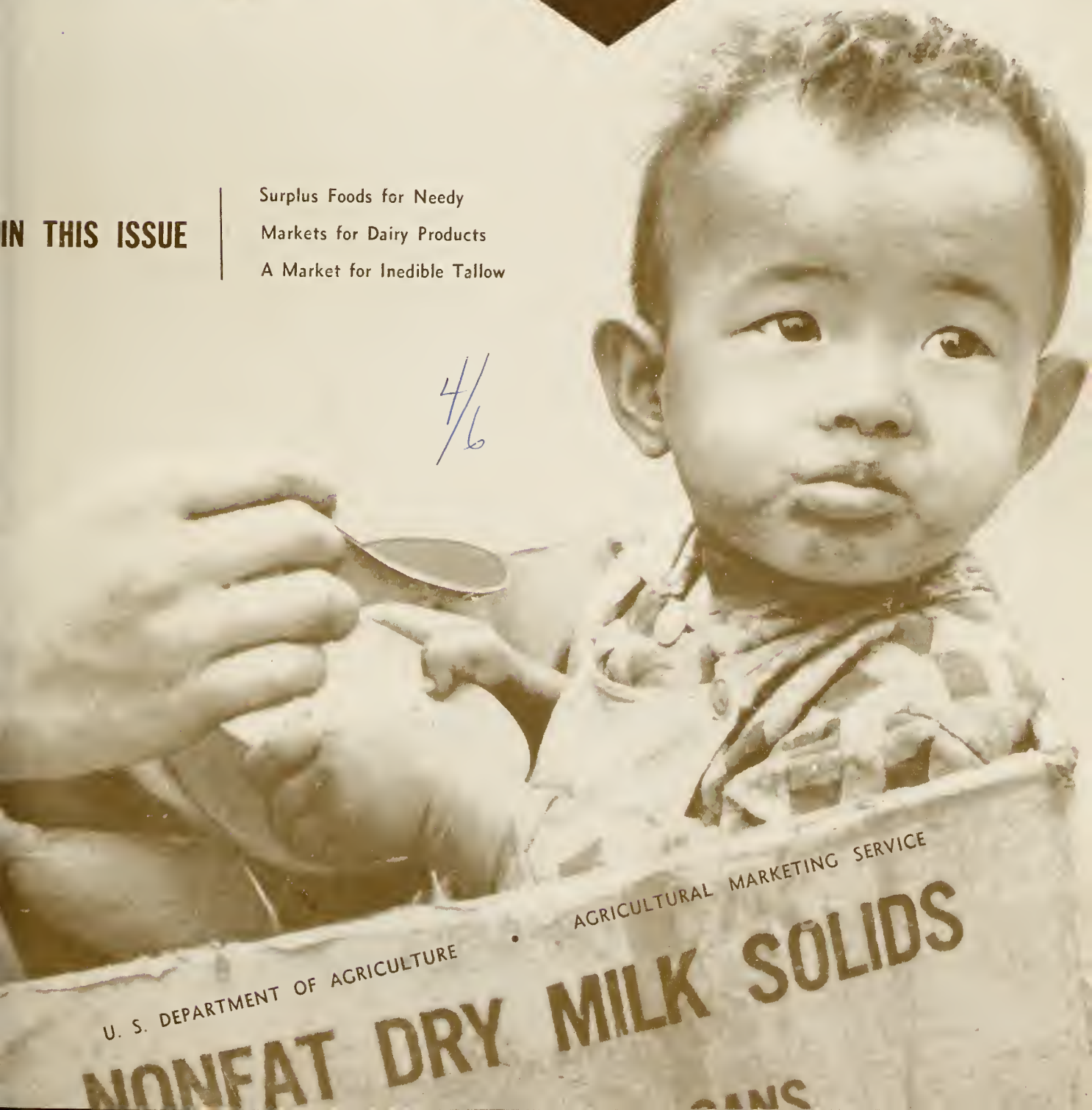
agricultural marketing

JUNE 1959

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Surplus Foods for Needy
Markets for Dairy Products
A Market for Inedible Tallow

4/6



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Editor, Milton Hoffman

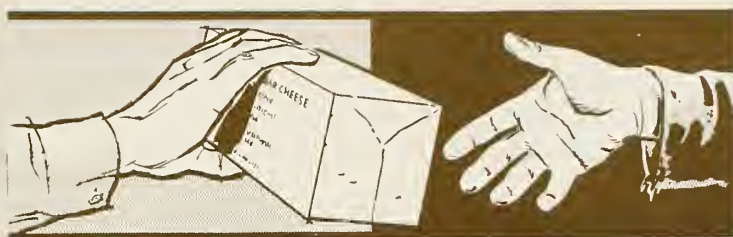
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SURPLUS FOODS FEED NEEDY PEOPLE

USDA Program Helps Bring the Two Together



TWELVE billion pounds of food, once labeled "surplus," have been put to use by the Direct Distribution Program of the Agricultural Marketing service. During the past 63/4 years, these foods have helped feed millions of needy persons both here and abroad.

In a single month this spring (March), 5,741,298 needy people received food donations through the Program.

In addition, foods are being distributed to charitable institutions for use in helping feed another 1,400,000 persons; to schools for use in lunches for more than 14,000,000 children; and to some 20 voluntary United States welfare agencies in 80 foreign countries.

Despite the billions of pounds of foods continually being sent to millions of recipients, many people do not know of the operation of the Program—or do not understand its operation.

One question they ask is: "Where do the foods come from?"

Foods donated through the Program are those the Department has taken over through price-support and stabilization programs, or through surplus-removal programs. Because of the way these foods are acquired, the kinds and quantities being distributed change from time to time.

Another question asked is: "Who are the people who receive the foods, and who decides that they are eligible?"

The Department is authorized to donate the foods it acquires for use in

school lunch programs and to feed needy people in this country and abroad.

In schools, of course, the foods go to children taking part in school lunch programs. In institutions, they are used to better the meals of needy persons.

Those who receive commodities as individuals in family units have been designated as "needy" by the distributing agencies of their particular State. Of the persons receiving foods in March, 2,414,657 were receiving "public assistance" aid, and 3,326,641 were other persons who qualified as eligible by the same standards of need as used in the States' own welfare programs.

Food donations go to needy persons in 44 of the States, the District of Columbia, Puerto Rico, and the Trust Territory of the Pacific Islands.

In the first three quarters of this fiscal year, the Direct Distribution Program moved more than 2½ billion pounds of surplus foods into use.

But, the Program serves not only to provide this amount of food to the needy; it also serves to reduce the inventories of USDA-owned foods by that same amount.

The Program has virtually eliminated inventories of dairy products. All surplus stocks of dry beans have been used and almost all of the cottonseed oil and shortening. Rice has been worked down to quantities held for sale. And, since the decision to use wheat and corn, substantial quantities of these two grains have been moved out of inventory for use as wheat flour and cornmeal.

The Direct Distribution Program deals only with foodstuffs. It does not utilize nonfood surplus stocks, such as cotton, tobacco, rosin, turpentine, soybeans, grain sorghums, oats, and barley.

And it's these nonfood commodities, plus the huge stocks of wheat and corn, that make up most of the \$5 billion inventory of commodities currently owned by the USDA.

THESE FOODS ARE BEING DISTRIBUTED THROUGH THE DIRECT DISTRIBUTION PROGRAM

AVAILABLE FOODS	RECIPIENTS			
	Schools	Institutions	Needy in U.S.	Needy Abroad
Butter	x	x	x	
Dry Milk	x	x	x	x
Cheese	x			
Rice	x	x	x	Limited
Flour	x	x	x	x
Cornmeal	x	x	x	x

A MARKET TEST for a NEW VARIETY of cantaloup

by Hugh M. Smith and J. Scott Hunter

PRODUCERS in the Rio Grande Valley of Texas have looked for a long time for a disease-resistant variety of cantaloup with good keeping quality and high consumer appeal. Now, they think they've found it.

The Rio Gold cantaloup, developed after many years' research by the Texas Agricultural Experiment Station, has received the okay of both consumers and the trade.

Market tested in June 1958 in Pittsburgh, Pa., by AMS analysts, this new variety successfully met the competition of melons from other producing areas. It sold at a competitive price, was of excellent flavor, and had practically no decay.

Rail unloads of cantaloups in Pittsburgh during this study totaled 105 carlots. Eleven of these were Rio Gold melons; 31 were other Texas melons; and 63 were Arizona-California cantaloups.

The wholesale price of the Rio Gold melons ran a bit higher than the average for other Texas cantaloups, but not as high as Arizona-California melons. Rio Golds (this is a varietal, not a brand name) sold for nearly 40 cents a crate more than other Texas cantaloups; Arizona-California melons, however, averaged 90 cents more than the Rio Golds.

At retail, the Rio Golds averaged 1.7 cents more per melon than other Texas cantaloups, but 0.4 cent less than Arizona and California fruit. The condition and keeping quality of the Rio Gold cantaloups in transit and on display at retail appeared to be every bit as good as other varieties.

Rio Golds did, however, arrive at the wholesale market with a rather high amount of slight bruising—but not enough to affect the grade. At the retail market, Rio Golds showed no more than average bruising. Decay was practically nonexistent.

Wholesalers and retailers both gave the Rio Gold melons a favorable rating. They considered them superior to other Texas cantaloups, although

somewhat below the quality of Arizona-California melons. This was because the exterior of the Rio Golds was green and had irregular netting, a characteristic the trade considered typical of Texas melons.

Trade people liked the internal appearance and flavor of the Rio Golds and were particularly impressed with the large amount of edible flesh. Many produce men commented that these melons were "the best we've seen from Texas."

The final answer to the big question—"Would Rio Golds sell advantageously in eastern markets?"—thus rested squarely with the consumer. And Rio Gold got its vote of confidence with little exception.

Unlike the trade, the eating public didn't seem concerned with the external appearance of the melons. A telephone survey of 339 housewives drew many favorable comments about the cantaloups and few if any criticisms of the outside color and texture.

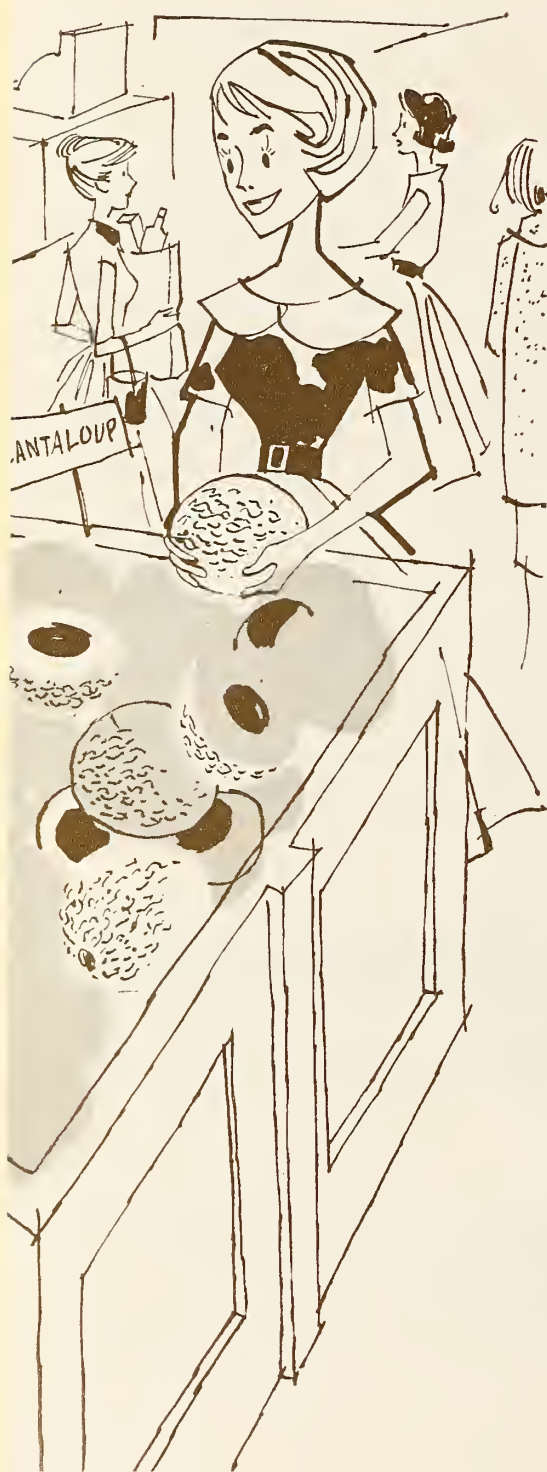
Many people, however, said they liked the flavor of the Rio Gold melons. Not only did these melons taste "sweet" and "good" to those who tried them, but they had what was termed "a real cantaloup flavor."

Nearly half of the people surveyed by AMS also commented on the tenderness and the amount of edible flesh in the Rio Golds. They liked the thick, good color of the inside flesh, the thin skin, and the small seed cavity.

The flesh of the Rio Golds was considered "firm" and "not soggy." It was also "juicy, soft and mellow"—all desirable characteristics in the minds of the homemakers.

A few people, however, complained about the taste, the ripeness, or the hardness of the particular melon they had purchased. But these were few in number. Seventy-two percent of the people questioned offered no unfavorable comments about Rio Golds.

When asked if they'd buy Rio Gold cantaloups again if these melons were sold in the stores where they shopped, 9 out of 10 said they would.





Selling Milk *through* Vending Machines

by James H. Clarke, Mardy Myers, and J. Scott Hunter

TO SELL a product, you first have to make it available. And that's exactly what milk vending machines do. They put milk in places where it may not otherwise be obtained, and in so doing they help increase milk consumption.

During a 22-month test period in Berkeley County, W. Va., vending machines added a definite "plus" to milk sales. More than half of the milk sold through these machines was considered above usual consumption.

Vending machines were located mainly in plants and offices, in some schools, and at a few outdoor locations. Marketing researchers from the West Virginia Agricultural Experiment Station and the Agricultural Marketing Service in Washington kept tab on their output.

The proportion of employees drinking milk in the plants and offices where milk vending machines were installed increased from 19 percent

before the installation of the vending machines to 63 percent after installation. This was determined by a consumer survey designed to measure attitudes and opinions toward vending machines.

People who used the milk vending machines bought chocolate milk or chocolate drink more often than other milk products. In plant and office locations, where more than 70 percent of the vended milk was sold, chocolate outsold regular milk 2.4 to 1 when only these two items were offered. With machines also dispensing other items, chocolate drinks still rated much higher than regular milk, orange drink, or buttermilk.

In addition to this competition among the various dairy products in plant and office locations, milk vending machines also competed with machines offering candy and soft drinks. Here, they didn't do too well. Milk sales generally declined during much of the 16-month period in which this factor was checked.

Sales of hot drinks, mainly coffee,

showed a rise during the first 9 months, then turned downward. Cold soft drink sales declined first, then rose irregularly. At the same time, candy sales also fluctuated, but showed a gradual decline during the final months of the survey.

It should be noted, however, that milk and hot drinks were sold at 10 cents while soft drinks and candy sold for 5 cents.

In checking the operating speed of the machines, research personnel found that fully automatic machines offer the extra speed needed during a short recess or rest period.

Although the study indicated that the market for milk can be expanded by the use of vending machines, these sales totaled only 1.5 percent of all milk sales in the area during the period from October 1955 to June 1957. Furthermore, there was no indication that vending machine sales would rise during an extended period.

West Virginia and AMS researchers believe that if vending machines in particular locations fail to break even in the first few months of operation, they aren't likely to pay off later.

Mr. Clarke is on the staff of the West Virginia Agricultural Experiment Station; Mr. Myers and Mr. Hunter are staff members of the Marketing Research Division of AMS in Washington, D. C.

Precooling and Shipping Louisiana Strawberries

STRAWBERRIES are one of our most perishable agricultural commodities. If field heat is removed quickly after picking and a temperature near 32° F. is reached and maintained in transit, the consumer gets higher quality, tastier berries.

W. H. Redit and A. A. Hamer of the Marketing Research Division of AMS recently made studies to determine the effectiveness of current methods for the precooling and transit refrigeration of Louisiana strawberries.

In cooperation with the Louisiana State Market Commission and the Louisiana Strawberry Commission, these research engineers checked precooling practices in 17 rail and 9 truck shipping tests. In cooperation with Louisiana State University, they conducted tests on experimental fiberboard containers and on the performance of car precooling fans.

Louisiana strawberry producers usually precool rail shipments in refrigerated express cars before the fruit begins its trip to market. Very often during the research period, the cars were not moved until the temperature of the berries at the door reached 40° F. As a result, the cars frequently missed their connections, sometimes causing a delay in delivery of as much as 12 hours.

AMS engineers found that precooling was speeded up when portable precooling fans were used to supplement the fans already built into the railroad cars. This increased the movement of air 36 percent.

If the car fans were operated by a 2-horsepower motor, instead of 1-horsepower, the air flow was increased another 25 percent. When the portable fans were used together with

the built-in electric car fans, air flow was better if the corner car fans were not covered by the canvas baffle of the portable fans.

The effectiveness of good precooling practices is sometimes defeated by poor equipment and careless icing. One of the main faults is the improper application of ice and insufficient icing. Employees have to be careful to properly work the salt into the ice.

Salt also should be added to the ice during transit in warm weather, and the researchers recommend that the ice bunkers be filled just before the car leaves for market.

In transit, the berries receive further cooling through the regular refrigeration system and fans within the car. This cooling, however, is only about half as fast as the precooling process. In most of the test cars, it took 14 hours' transit time to reduce the average berry temperature to 40° F. As the berries continued on to market, they gradually approached the desired 32° F.

Strawberries that are shipped to market by truck seldom receive any

precooling. So, it takes longer for this fruit to cool to the proper temperature than were it moved by rail. In most of the trucks tested, the berries were on the road 30 hours before their average temperature was brought down to 40° F. In some of the trucks, this temperature never was reached.

However, one truck, which had better than average equipment and operation, cooled the fruit almost as fast as the refrigerated rail cars.

In another phase of the research, AMS scientists compared the cooling efficiency of standard wirebound crates and experimental fiberboard trays shipped in express cars. They found that when proper air channels are provided in the load, strawberries cool just as quickly in trays as in crates.

For the most part, presently used methods of precooling and shipping Louisiana strawberries in refrigerated railroad cars work very well if the cars are properly iced and salted, and if the built-in car fans are used in conjunction with portable fans during precooling.

Most of the trucks used to transport fresh strawberries still lack the proper equipment to do a quick job of removing field heat. Properly equipped and operated trucks, however, should be able to move strawberries to market satisfactorily.

A full report of the research findings will be published some time this summer.

AMS researchers recommend that the ice bunkers be filled just before the car leaves for market.



A Market for Inedible Tallow and Grease



by Virginia M. Farnworth

THE RAPIDLY growing mixed feed industry offers the Nation's renderers the most promising market for inedible tallow and grease. Since 1952, its use of animal fats has increased nearly 30-fold. By 1958, feed mixing plants were adding 353 million pounds of tallow and grease to their manufactured feed.

This is the most favorable trend in the rendering industry.

For the past 10 years, renderers have anxiously watched their marketing situation grow steadily worse. Customers have fallen away; prices have dropped—and all the while production has moved upward.

Between 1947 and 1958, inedible tallow and grease prices declined from about 19 cents a pound to 7.5 cents, and the difference between the value of the rendered product and the cost of the materials also decreased.

In large plants employing over 100 persons, the spread between the value of shipments and the cost of materials declined an average of \$1.1 million per plant between 1947 and 1954. During this same period, the industry increased its output of tallow and grease an average of 1.2 million pounds per plant.

Thus, it became imperative that the rendering industry seek new markets and new means of increasing efficiency in the processing and marketing of its products.

Fortunately, U. S. exports of inedible tallow and grease have been strong ever since 1949. About 40 per-

cent of the 1958 production went overseas, with the U. S. accounting for 72 percent of the world trade in tallow and grease.

At home the soap industry used over 700 million pounds of animal fats last year. But this was well below the 1,500 million consumed by this industry only 10 years earlier. And chances for recovering this market are unlikely.

This leaves the mixed-feed industry as the one bright spot on the domestic marketing scene. While already taking substantial quantities of animal fats, this industry could use even more. The 353 million pounds consumed in 1958 is still a long way from maximum.

If more fats were added to the 35 million tons of mixed feed now being produced, both the rendering and the feed industries would stand to benefit. It would not only relieve large surpluses of inedible tallow and grease, but it would add extra nutritive value to the livestock feed and help control dustiness during feed handling and storage.

However, between the feed manufacturer and the fat renderer lies that age-old problem of quality control. Unless the rendering industry can supply consistently high-quality fats to feed plants, future development of this market may be curtailed.

Acutely aware of this problem of quality maintenance, some renderers are keying their production practices to suit the needs of the feed-mixing industry. They are also trying to improve the quality of the meat scraps and tankage which are produced as joint products of tallow and grease.

Variations in quality have been an important reason for the variation in prices paid for meat scraps and tankage by feed mixers.

If the raw material going into meat scraps and tankage is properly segregated, handled and processed, these products will more likely find a ready market in the mixed feed industry. They not only offer a high protein supplement, but contain rather large amounts of phosphorus, calcium, and important vitamins.

Meat scraps and tankage also may be sold for use in fertilizers, where they serve as valuable sources of nitrogen, phosphorus, and potassium. In 1954, over \$13 million worth of animal byproducts (including bone and blood meal) were used in the manufacture of fertilizers.

While this is not a large outlet, it may well meet the needs of the small rendering company that does not have the facilities or raw material to produce tankage and meat scraps suitable for animal feed.

At the same time renderers have been looking for new and expanded markets, they have sought to reduce per unit costs. This has been possible through lower costs for raw materials and by increased efficiency in the use of labor and power.

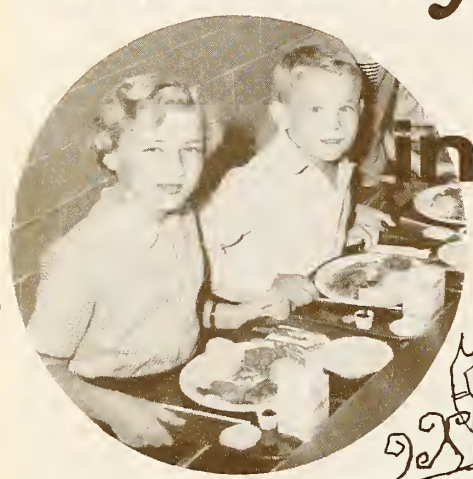
The wide variation among plants in output per production manhour and per unit of power consumed indicates further increases in efficiency may be possible—at least in some segments of the industry.

A complete report on "The Inedible Tallow and Grease Industry" may be obtained from the Office of Information, USDA, Washington 25, D. C.

The author is a staff member of the Market Organization and Costs Branch, AMS.



the market for Dairy Products in schools



by William S. Hoofnagle

THE SCHOOL lunch program, a growing part of the American educational system, is offering an important market for our Nation's dairy production. It is also establishing the very young, good eating habits and a taste for milk and other dairy products that might well carry over into their adult lives.

Between July 1957 and June 1958, slightly under 3½ billion half-pints of fluid whole milk and 170 million pounds of butter, cheese, ice cream and nonfat dry milk solids were delivered to public elementary and secondary schools having a lunch or plate lunch services. It is estimated that an additional 1/3 billion half-pints of whole milk were consumed in schools serving milk only.

These are the figures Agricultural Marketing Service economists came up with after surveying some 500 representative schools with lunch facilities. Projected to include all 120,000 public schools in the U. S. with lunch services, these statistics indicate the size of the overall market for dairy as well as other food products.

(Not in the sample, but estimated on the basis of an earlier study, were some 19,000 additional schools serving milk only. Public schools with neither lunch nor milk service in 1957-58 numbered approximately 27,000.)

As the school population increases and as the trend toward lunch in school continues, more and more service facilities are being built at new schools and older schools are modernizing their facilities to accommodate lunch programs.

The school market for farm products is thus expanding in all directions—through a rapidly

Mr. Hoofnagle is Head of the Distribution Research Section, Market Development Branch, Marketing Research Division, AMS. Mr. Anderson is a staff member of that section.



and Kenneth E. Anderson

school population and through a broadening of food service facilities. The effects of this expansion will be felt all through the agricultural system, from the producers and processors of fruits and vegetables to the livestock and dairy farmers. The greatest market potential, however, is offered to the dairy industry whose products already account for 45 percent (in terms of wholesale value) of the foods served at public elementary and secondary schools.

Last year, enough fluid milk was distributed at the 60,000 schools having plate and a la carte lunch services to provide 154 half-pint units to every child in attendance.

This consumption of fresh fluid milk was matched by an equally impressive amount of processed dairy products—butter, cheese, ice cream, and nonfat dry milk solids.

Almost 63 million pounds of butter, donated almost entirely from Government stocks, were distributed to school food service facilities last year. This came to about 3 pounds per child—a substantial amount when one stops to consider that for the civilian population as a whole per capita butter consumption averaged only 8.4 pounds in 1958.

Large quantities of cheese also were included in public school menus during 1957-58. Often served in sandwiches and prepared dishes, more than 37 million pounds of cheese, mostly processed, were used. All told, in schools having a lunch service, each child in attendance had available an average of 1.8 pounds of cheese.

Ice cream, always a favorite dessert on any menu, was another popular school lunch item. During the survey period, more than 54 million pounds of ice cream went to public school feeding programs. On a per capita basis, 2.5 pounds of ice cream were consumed by the school market.

Although nonfat dry milk solids were used by schools in rather large amounts, only minor quantities were reconstituted for drinking as a beverage. It was used chiefly in food preparation. Between July 1957 and June 1958, about 16 million pounds of nonfat dry milk were delivered to public schools in the United States. Averaged out, this came to 0.7 pound per child.

This then is the current dairy market in schools having feeding facilities. There are, however, within this market wide differences in the quantities of the various dairy products used. These differences show up in a comparison of schools participating in the National School Lunch Program and those not participating.

For example, Lunch Program schools had a 75 percent higher per capita milk consumption than schools not under the Program. They also used much larger quantities of cheese. But, nonparticipating schools used twice as much cottage cheese and half again as much ice cream on a per capita basis as participating schools.

Dairy products moving to both participating and nonparticipating schools had a wholesale market value of \$267 million.

On a per child basis, \$12.43 worth of dairy products was made available to public schools with food services. Fluid milk, of course, accounted for most of this. Its share came to \$8.94. Butter averaged \$1.67; ice cream, 79 cents; cheese, 70 cents; and the average for all other processed items totaled 33 cents.

The value of dairy products delivered to public schools serving lunches was highest in urban elementary schools having more than 300 pupils, in areas where family incomes were less than \$4,000, and in schools participating in the National School Lunch Program.

Dairy products accounted for almost half (45 cents) of the wholesale

value of every dollar's worth of food used by public schools having a lunch service during the 1957-58 survey year. Fluid whole milk was valued at 32 cents; butter at 6 cents; ice cream, almost 3 cents; and natural and processed cheese, 2½ cents. Nonfat dry milk solids, cream, chocolate drink, cottage cheese, and evaporated milk accounted for the remaining 1½ cents.

The value of dairy products used by schools participating in the National School Lunch Program averaged 6 cents more per child than in nonparticipating schools having lunch service.

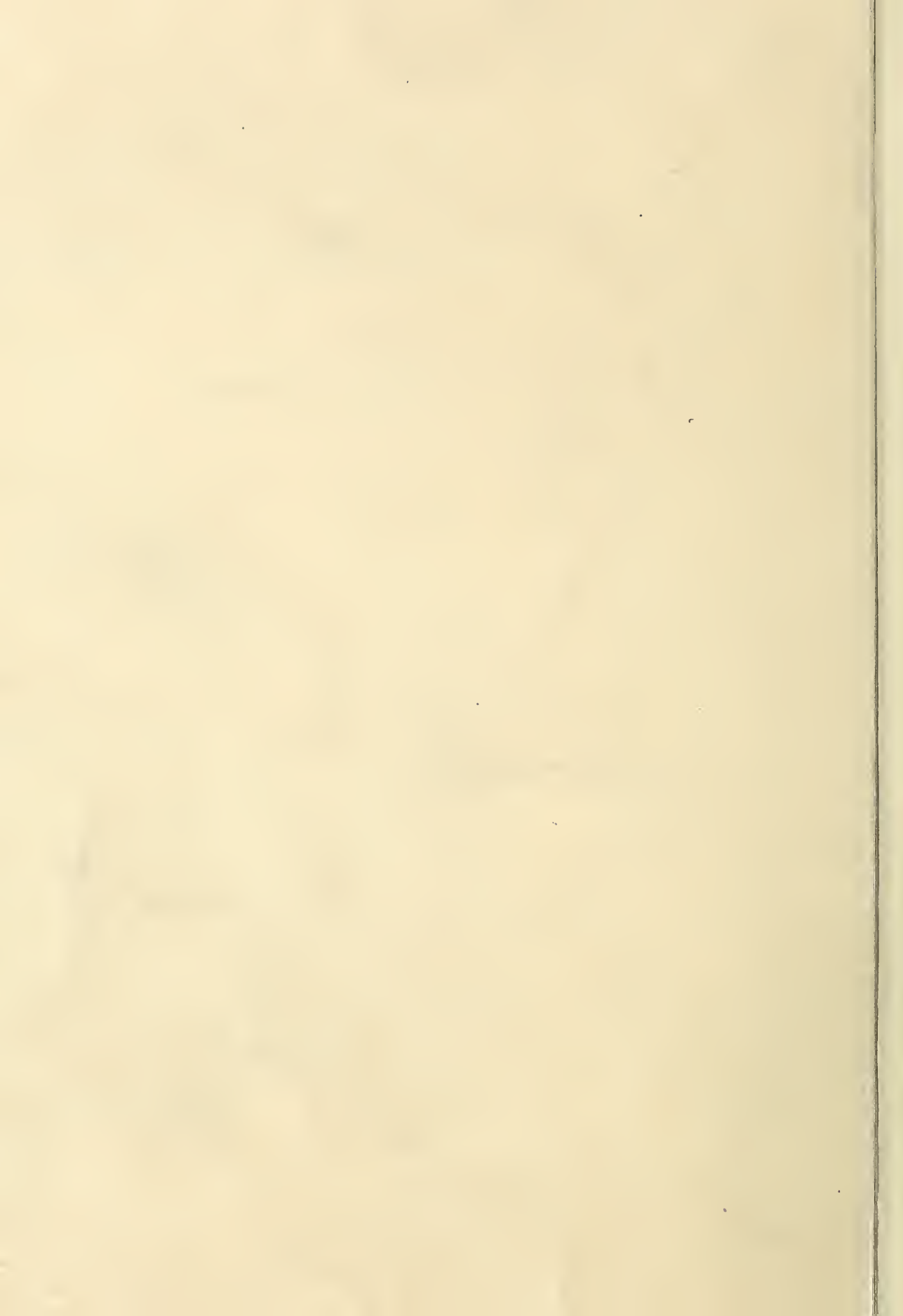
Almost 20 percent of the total value of all dairy products delivered to the school lunch market was directly donated from Federal surplus supplies. Butter accounted for 67 percent of the dairy donations; cheese, 27 percent; and nonfat dry milk solids, 6 percent.

Of the total value of all donated foods, butter accounted for almost 39 percent and other dairy products for 19 percent.

Fluid whole milk still represents a major portion of the value of all dairy products utilized in public schools serving lunches. Approximately \$192 million was spent for fluid milk during the survey period. However, a portion of the cost was borne by the Federal Government.

Purchases of dairy products were made almost exclusively from local processors and wholesalers. Buying practices included the use of competitive bids, placing orders with route salesmen, personal selection, or telephone orders. Small schools generally used the more personal method.

As might be expected, larger schools (those with 300 or more pupils) usually asked for bids. Almost 50 percent of these schools obtained milk products locally through competitive bidding, while only 18 percent of the small schools used this purchasing method.



the market for Dairy Products

in schools



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As might be expected, larger schools (those with 300 or more pupils) usually asked for bids. Almost 50 percent of these schools obtained milk products locally through competitive bidding, while only 18 percent of the small schools used this purchasing method.

Mr. Hoofnagle is Head of the Dairy Products Research Section, Market Development Marketing Research Division, AMS. Mr. Anderson is a staff member of that section.

MILK CONSUMPTION IN SUMMER CAMPS



by Kenneth E. Anderson and Russell L. Hawes

CHILDREN attending summer camps, who are served milk at least four times a day, drink a lot more than they might otherwise. It also helps to let the campers and their counselors pour the milk from large pitchers and to restrict servings of fruit ades and other milk substitutes.

Milk consumption at summer camps is further influenced by the price of milk, which, in turn, affects purchases and availability. Relatively low priced milk usually means more servings and greater per capita consumption.

These are some of the findings of AMS market analysts who recently surveyed a representative sample of 109 nonprofit summer camps in 3 Northeastern States. About 70 percent of the nonprofit camps in these States participated in the Special Milk Program, which seeks to bring about increased milk consumption at summer schools and camps, as well as in regular school sessions and in child-care organizations.

The survey sought to determine what factors influence milk consump-

tion in summer camps. Research personnel checked the number of times milk was served each day, the cost of milk and the purchasing practices of each camp, the number and kinds of competing beverages available, and the ways in which milk was served.

They found that children readily drank milk about 4 times a day. But when they were offered it more often than this, total consumption did not increase nearly as fast. One or more serving of other beverages (such as fruit ade) resulted in a drop in per capita consumption.

Also closely associated with per capita consumption was the cost of the milk itself. If the camp paid a relatively high price for its milk, it seldom served milk more than twice a day. But if it could obtain milk for a moderate price, as many as 4 or more servings were offered.

Consumption thus varied with the price paid for milk. Camps paying 6 cents or more for a half pint of milk had a per capita consumption rate of 3.3 half pints, whereas those paying less than 6 cents averaged 3.6 half pints per child.

The cost of milk, however, depended to a great extent upon the purchasing plan used by the camp. Camps that bought milk in half-pint cartons, for example, paid about 6.8 cents for a half pint. Those buying it in 10-gallon containers paid only 4.8 cents a half-pint equivalent.

Thus, the purchasing policy of the camp—and the resulting difference in the cost of milk—played a part in determining per capita consumption. Camps that purchased all or some of their milk supply in half-pint cartons had an average daily per capita consumption of 3.1 half pints compared with a rate of 3.7 half pints in other camps.

Serving milk in large containers has the added advantage of making the milk readily available to the children. A large pitcher standing in the middle of the table encourages milk consumption. So does having both camper and counselor pour the milk.

Availability of other beverages also affected the rate of milk consumption. Fruit ade and cocoa made from skim milk or water acted as direct substitutes for whole milk. Where fruit ade was served, milk consumption dropped 0.8 half pint below the rate in camps not serving this item.

Fruit juices served at breakfast along with milk, however, had little adverse effect on the level of milk consumption. Camps in which only milk and fruit juice were served had an average daily per capita consumption rate of 4.2 half pints of milk—just 0.2 half pint less than those serving milk only.

Camps serving cocoa made with whole milk showed above average daily milk consumption.

Interestingly enough, neither the size of the camp nor the age and sex of the children had anything to do with the amount of milk offered and consumed at summer camps.

A complete evaluation of the Special Milk Program in nonprofit summer camps has recently been issued by the Agricultural Marketing Service. Entitled "Milk Consumption in Summer Camps," this report may be obtained from the Office of Information, USDA, Washington 25, D. C.

The authors are agricultural economists in the Marketing Research Division of AMS.

Purchasing Maryland Tobacco For Resale

by J. W. H. Brown

SPECULATORS on the Maryland tobacco auction market purchased about 4.8 million pounds (or 14 percent) of the 1957 crop, according to the Agricultural Marketing Service.

Although the past 2 years have seen a drop of about 4 percent in the amount of speculation, gross profits of speculators have gone up. Increased margins per pound have given these buyers an increase in revenue.

Speculation on tobacco, as the term is used here, is the purchase of tobacco for quick resale to make an economic gain. Buying tobacco for filling an order in the more distant market is not included here as speculative buying.

On the Maryland market, there are four groups who speculate. They are:

- "Pinhookers," who buy tobacco on the auction floor for resale on the auction market;
- Transfer buyers, who purchase tobacco on the farms and then resell it on the auction market or the Baltimore hogshead market;
- A third group who act in the capacity of both pinhookers and transfer buyers—that is, they make purchases at the auction floor and at the farm;
- And, warehousemen, who purchase at the auction warehouses and resell at the same warehouse.

During the sale of the 1957 crop, there were 16 pinhookers speculating on Maryland tobacco, 10 transfer buyers, 8 pinhooker-transfer buyers, and 8 warehousemen. Each of these groups, except the warehousemen, had experienced a sharp drop in numbers since the marketing of the 1956 crop.

The number of warehousemen, however, has remained constant for the past several years.

Warehousemen buy more tobacco than any of the other groups. Over 2½ million pounds of tobacco from the 1956 crop were purchased by warehousemen. Purchases in 1958 (from the 1957 crop) were another 100,000 pounds larger.

Pinhooker-transfer buyers ranked second in the amount of speculative purchases on the Maryland tobacco market. They bought 824,000 pounds from the 1957 crop. This, however, was down 300,000 pounds from the previous year.

Pinhookers bought 801,000 pounds of 1957 tobacco (a reduction of 300,000) and transfer buyers purchased 575,000 (350,000 pounds less).

As a group, the pinhookers had the largest average margin of all the spec-

ulators. This margin increased from \$11.81 per hundred pounds for the 1956 crop to \$16.05 on the 1957 crop.

The warehousemen's margin averaged \$9.49 per hundred for the 1957 crop, or \$2 more than the previous season. The margin received by transfer buyers averaged \$8.14 from the 1957 crop; a \$1.75 increase from the 1956.

The combination group of pinhookers-transfer buyers got the lowest average margin and the smallest average increase from the 1956 to 1957 crop. Their margin averaged \$7.03 on 1957 tobacco compared with \$6.73 on 1956 sales.

The largest gross profit was taken by the warehousemen. Their profits rose from \$181,000 on the 1956 crop to \$247,000 for the 1957. Pinhookers increased their profits by \$2,000 to make a total for the season of \$126,000.

Profits of both the transfer buyers and the pinhooker-transfer buyer group suffered a reduction on 1957 sales. Transfer-buyers' profits fell from \$59,000 to \$47,000. Pinhooker-transfer buyers saw their gross profits decline from \$78,000 to \$60,000.

AMS economists are currently preparing a detailed account of speculation in Maryland-type tobacco on auction warehouse floors. This report is scheduled for publication in the fall.

Prospective buyers line up to inspect stocks of Maryland tobacco being offered at auction market.



The author is an agricultural economist in the Marketing Research Division of AMS.



Matching fund program helps dairy industry move

a better product

by Robert P. Callaway

IN A RESEARCH laboratory in Wisconsin, a dairy scientist peers anxiously into a microscope. Somewhere in Kansas, butter makers, plant graders, and cream station field superintendents listen to a Federal inspector explain the principles of butter grading. All across the country, specially trained research people are busy sampling, tasting, analyzing, and checking milk and milk products moving through market channels.

Dairying is an important phase of the Federal-State marketing service program. Scenes like these are common under the Matching Fund Program of the Agricultural Marketing Service.

Twenty-six States are actively engaged in milk marketing service programs. Fourteen of these are working on the quality improvement of dairy products.

Under the Agricultural Marketing Act of 1946, these States are given financial aid by the Federal Government. AMS also helps the participating States plan their programs and gives counsel on particular problems. However, the main responsibility for program development rests with the States.

This is as it should be. For, the

Matching Fund Program seeks to bring about the application of marketing research in the solution of problems in the State.

Different States have different problems. For some, the solution of manufacturing problems is of primary importance. Others spend their time—and money—seeking ways to improve handling methods; while still others, like Illinois, have extensive promotional programs.

Illinois, one of the more actively participating States, has done much through the Matching Fund Program to promote the sale and consumption of dairy products. Together with the American Dairy Association, it has staged dairy festivals, exhibits, and advertising campaigns.

Classes in salesmanship are held for both wholesale and retail milk salesmen and consumer information programs are conducted. And schools and institutions are informed of the nutritional value of dairy products and encouraged to increase their consumption of these items.

In Wisconsin, the cheese and dairy capital of the country, emphasis is placed on upholding the already high standards of the dairy industry. Quality maintenance is of chief concern.

The State is most anxious to reduce bacterial and antibiotic contamination to an absolute minimum. Through direct microscopic examinations, dairy

scientists keep an eye out for any undesirable organisms in dairy samples.

As part of their work experience, plant employees are shown various types of organisms under the microscope and instructed in ways to prevent their occurrence. In this way, the problem of contamination is attacked at the first stage of marketing.

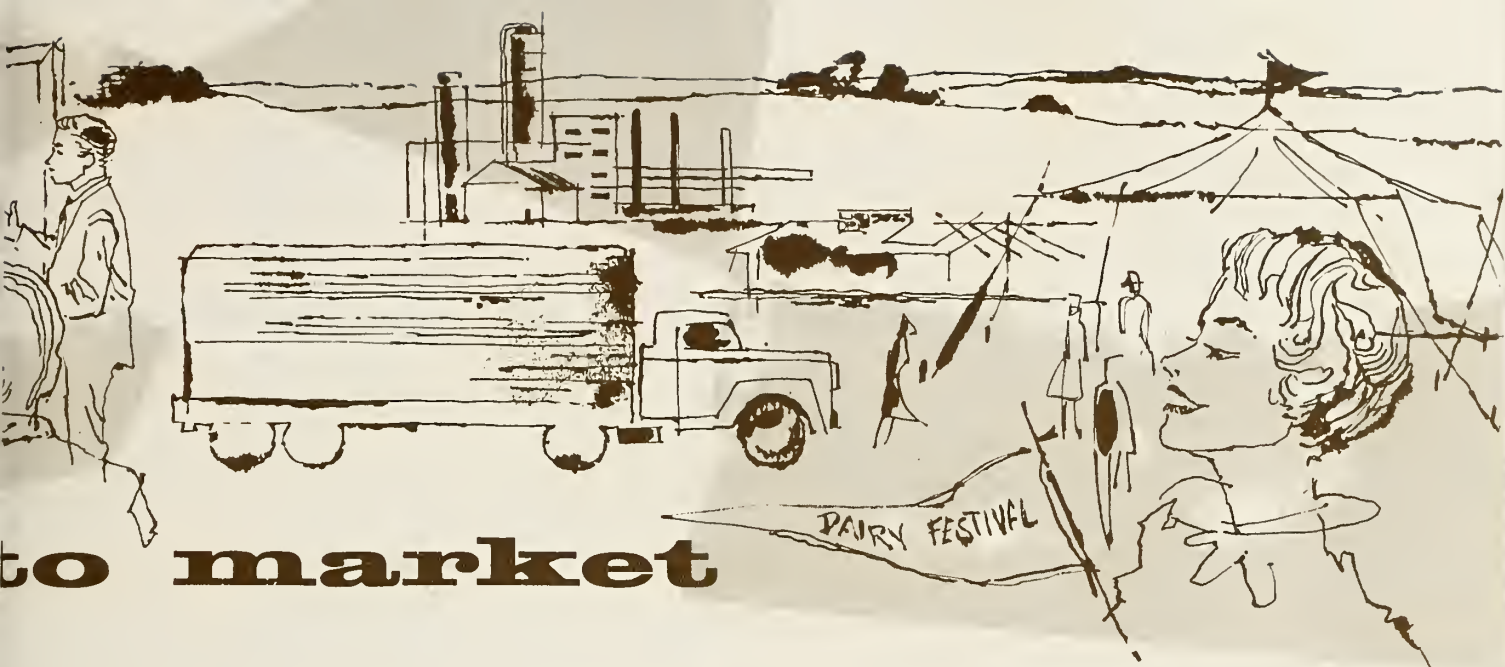
As a result of this concentrated effort toward better handling and processing operations, a substantial improvement has occurred in the grade of Wisconsin's already fine dairy products. The percent of A or AA butter, for example, has risen from 41 percent in 1951 to nearly 60 percent in 1957. The increased revenue resulting from this and other quality improvements ran to something more than \$200,000 a year.

The Matching Fund Program in Minnesota also concerns itself with quality maintenance. Flavor and other defects in dairy products come under careful scrutiny.

During the past year, the Minnesota State department of agriculture has set about to improve 56 dairy plants in a 6-county area. A mobile laboratory operated by the State moves from plant to plant, checking the quality of their dairy products.

Through this scientific sampling and analysis, the scientist can determine the causes of slight off-flavor and other defects. He then provides

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to market

the plant with a complete report of his findings, including a statement of the amount of milk downgraded by the laboratory. These reports can, thereafter, serve as benchmarks by which the plant may measure future corrective improvements.

Kansas is approaching its quality control problems in still another way and also with good results. The State has established special schools for butter makers, plant graders, and cream station field superintendents. Here, dairymen obtain a thorough knowledge of the grading system and have explained to them the reasons for downgrading. By adopting programs such as this, Kansas has succeeded in reducing the amount of milk condemned by almost one half.

In Indiana, under the Matching Fund Program, Purdue University is aiding 69 milk plants and 26 butter plants to improve the quality of their products. Thanks to this program, the average score of butter went up from 88 to 92 in just four years. Likewise, the bacterial count of milk used in the manufacture of other Indiana dairy products dropped considerably after improvement work was begun.

The Massachusetts Department of Agriculture and the Extension Service cooperate in conducting a milk flavor improvement program.

Everyone in the State involved in dairying has been notified of the pro-

gram and its aims. Panels have been set up to score milk samples collected from various dealers. The dealers are then informed of these scores so they can see how their produce rates and better understand the need for quality improvement.

Other technical assistance also is given dealers in solving their individual problems. All told, the Commonwealth of Massachusetts works with 141 milk plants and 964 producers on problems of quality control.

Vermont was the first State to initiate flavor improvement work under the Matching Fund Program. It now has a campaign underway to get Vermont dairy farmers to install new pipe line milking systems in their barns. This helps reduce rancidity and moves a better product to market.

Whenever flavor problems appear in Vermont, they are traced back to the dairy barn or the plant where they originate. The causes of flavor defects range from tainted flavors in dairy feed to worn copper pipes in the plant. During the 3 years that the Vermont milk flavor program has been in operation, the retail sales of milk have increased 15 percent, proving that flavor is an important criterion by which consumers measure the quality of milk.

North Dakota has set standards for the production of Grade A milk. Its Matching Fund Program encourages

the construction of modern milk-houses and the remodeling of outdated houses. As a result of this program, 59 new milk houses have been built and 108 others have been modernized. So far, 100 bulk milk systems have replaced milk cans on North Dakota farms.

Mississippi also is attempting to raise more of its milk production to Grade A standards. Help is given to farmers who are entering the bulk milk system of production to insure proper handling of the new equipment. Processing plants, as well as dairy farms, are gradually shifting to this type of operation. Two plants have already made the conversion and more are expected to change over.

In addition, the Matching Fund Program in Mississippi assists fieldmen and managers of processing plants to correct quality problems originating on the farm. A careful study of the individual farm situation usually results in improvements.

In these many and varied ways, the Matching Fund Program of the Agricultural Marketing Service furthers the efficient marketing of high quality dairy products. Ever since it went into effect back in 1946, the Federal-State program has been one of cooperative progress. Dairy farmers, processors, and distributors have been able to improve both the quality and sales of their products.

Continuous inspection service for processed fruits and vegetables

Twenty Years of Growth

by Elinore T. Greeley

TWO DECADES ago, in a cherry-packing plant in Traverse City, Mich., USDA inspectors began a system of continuous inspection for processors of fruits and vegetables.

This was something new. Federal inspectors had previously made inspections on specific lots of processed products, but never had they been employed continuously during the entire processing operation.

Yet, from the very beginning, the system of continuous government inspection proved highly successful. Wholesalers and other large buyers liked the idea of dealing on the basis of uniform standards, with the quality of each lot certified by an impartial inspector. The processor felt the homemaker, too, would appreciate the knowledge that the product she bought met certain standards of quality and wholesomeness.

From this one plant in Michigan 20 years ago, the USDA program has expanded to include 182 fruit and vegetable processing plants in all of the major processing areas of the country. Many of these plants are in California and Florida. Practically all of the citrus products packed in Florida last year were processed under the continuous inspection program of the U. S. Department of Agriculture.

More and more products are coming to grocery shelves bearing the shield that assures the customer that these goods have been "packed under continuous inspection by the U. S. Department of Agriculture."

Rather loosely defined, continuous inspection means that a USDA inspector is on duty at all times in the

processing plant while the product is being packed. This inspector observes every step in the processing from beginning to end. He checks the raw fruits and vegetables to make sure they are sound and wholesome. He sees to it that the equipment gets cleaned at proper intervals and that other sanitary procedures are followed.

The inspector prepares for the management a daily report in which he sums up his observations. Finally, when he completes inspection of the product, he issues a certificate, upon request, showing the official grade of each lot.

In 1958, USDA inspectors observed the packing of over a hundred million cases of canned goods, a billion pounds of frozen foods, and 60 million pounds of dried fruits and vegetables. This year, the totals are expected to be even higher. More plants are being added to the program all the while, and new inspectors are being trained to meet the demand.

Continuous inspection is completely voluntary on the part of the processor. He applies to the USDA's Agricultural Marketing Service. Before his application is approved, his plant has to undergo a thorough survey to make sure the building construction, equipment, and sanitation facilities meet the standards of the service. Such things as lighting, ventilation, water supplies, and operating procedures are also checked.

If the USDA requirements for the plant and other phases of the operation are fulfilled, then the processor's application can be considered. The plant management agrees to reimburse the USDA for the cost of the service. They also agree to use only sound raw materials, handled and

stored under proper conditions, to keep their plant sanitary, and to submit any labels bearing the continuous inspection statement for USDA approval.

The continuous inspection service is available to both large and small plants. The number of inspectors employed in any one plant may vary according to the type of operation and the size of the plant. Some plants may need only one inspector; others may have several inspectors on duty to cover around-the-clock operations during the height of the season.

The Federal inspector helps improve the overall quality of the product through better quality control methods. By running spot checks on various phases of the processing operation, the inspector is able to spot trouble before it reaches the danger point.

These advantages have been the basis of the popularity of the continuous inspection service and the reasons behind its steady growth. It now accounts for about half the inspections performed by the Fruit and Vegetable Division's Processed Products Standardization and Inspection Branch.

There is every reason to expect further expansion of continuous inspection in the years to come. One indication of this is the recent increase in purchases of inspected frozen fruits and vegetables by restaurants, hospitals, and government agencies.

With each passing year, more and more large-scale buyers of processed foods are coming to recognize the value of continuous inspection. They are finding it a sound marketing practice which, through the close cooperation of the processor and USDA, moves a better product to the wholesale, institutional, and retail buyer.

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USDA inspector and assistant checking samples of canned apricots for size and for blemishes.



In quality control laboratory of asparagus cannery, USDA inspector and assistant examine samples of previous day's pack. They are checking for color and defects and then will assign scores for each of these factors.



Trained inspector makes routine test at citrus plant. Among other things, he checks amount of sweetness, natural fruit acids and centrifuged pulp, and the percent of recoverable peel oil.



USDA continuous inspection shield indicates quality control laboratory at canning plant.



Inspector checks the cold wall blend tanks where concentrated orange juice is blended with fresh fruit before it is put into cans, frozen.



Visual aids are used extensively by USDA inspectors. Here canned peaches are compared with color model.

The Changing Market

Creamery Butter Production

Five North Central States last year accounted for two-thirds of the total output of creamery butter produced in the United States. Minnesota led in total output, followed by Wisconsin, Iowa, Nebraska, and North Dakota.

Ten years earlier the same five States produced 52 percent of the national output of creamery butter, and 20 years earlier, 46 percent.

Agricultural Marketing Service figures show that part of this relative increase in the North Central States has been due to declines in many other areas. In 1958, United States' butter production dropped 2 percent, but these five States remained stable.

Minnesota in 1958 maintained the record high it had set in 1957, and Wisconsin surpassed its previous record. Output in the other three States, however, remained below the record production of 1940.

Butter is the main dairy product in four of the States in the North Central group. More than 60 percent of the milkfat produced in Minnesota, Iowa, Nebraska, and North Dakota goes for butter making.

In Wisconsin, the amount of milk fat used for butter has fluctuated between 15 and 33 percent. It rose from 15.1 percent in 1945 to 22.4 percent in 1950 and then to 33 percent in 1958. Wisconsin produced 21 percent of the Nation's butter in 1958, 8 percent in 1948, and 11 percent in 1938.

While production of butter in these five North Central States remained stable or was on the increase, output in the States of the South Atlantic, South Central, and Western regions was cut in half between the late 1930's and 1958. These three regions accounted for nearly a fifth of the Nation's butter production in the 1930's but only a seventh in 1958.

Milk and Cream Consumption

Americans aren't consuming quite as much milk and cream as they used to. For the past 2 years, per capita consumption of milk and cream products has gone down.

Final figures just in from the Crop Reporting Board of AMS show average per capita consumption at 345 pounds—5 pounds less than in 1957 and 9 pounds less than in 1956.

Interestingly, per capita farm consumption has dropped more sharply than per capita urban consumption. From 1950 to 1958, farm folks decreased their use of milk and cream products about 10 pounds, while city people used only 5 pounds less.

Total milk consumption in the United States during 1958 came to 60.5 billion pounds—up slightly from the 60.4 billion-pound total of 1957. Civilian consumption took 59.1 billion pounds, compared with 59.0 billion a year earlier.

Sales of Whole Milk

U. S. sales of whole milk to dairy plants in 1958 reached a new high of 99.4 billion pounds, despite a decline in production during the year.

This trend toward increased marketings of whole milk by farmers has been underway for a quarter century. Sales of whole milk have risen from 26 billion pounds in 1924 to last year's record high of 99.4 billion pounds.

Much of this increase has come from reduced sales of farm-separated cream. Farmers sold cream from 11 billion pounds of milk in 1958 compared with 36.5 billion pounds during the peak year of 1933.

Several factors have contributed to this change in milk marketing. Facilities for receiving and processing whole milk have become more generally available, and improved highways and bulk transportation have provided better means of moving milk greater distances.

As a result, farmers are getting a better cash return per hundredweight if they sell whole milk rather than separated cream. An added advantage to the farmer is the elimination of farm labor formerly needed to man the separator.

Farmers now are selling about 90 percent of the milk they produce, whereas in the 1920's they sold less than 75 percent. A substantial quantity of solids-not-fat, formerly fed to livestock, now goes to market.